6/5/1 (Item 1 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

10085032 99330560

Spectrum of mutations in the %HFE% %gene% implicated in haemochromatosis and porphyria.

de Villiers JN; Hillermann R; Loubser L; Kotze MJ

Division of Human Genetics, Faculty of Medicine, University of Stellenbosch, Tygerberg 7505, South Africa.

Hum Mol Genet (ENGLAND) Aug 1999, 8 (8) p1517-22, ISSN 0964-6906
Journal Code: BRC

Languages: ENGLISH

Document type: JOURNAL ARTICLE

JOURNAL ANNOUNCEMENT: 9911

Subfile: INDEX MEDICUS

Mutation analysis was performed on DNA samples of 965 individuals from four different ethnic groups in South Africa, in an attempt to determine the spectrum of sequence variants in the haemochromatosis (%HFE%) %gene%. This population screening approach, utilizing a combined heteroduplex and single-strand conformation %polymorphism% (HEX-SSCP) method, revealed three previously described and four novel missense mutations. Novel variants V53M and V59M were identified in %exon% %2%, Q127H in exon 3 and R330M in exon 5. The exon 5 variant was identified in one of 13 patients referred for a molecular diagnosis of hereditary haemochromatosis (HH), who tested negative for the known C282Y and H63D mutations. Mutation Q127H was detected in exon 3 of the %HFE% %gene% together with mutation H63D in an apparently severely affected patient previously shown to carry the protoporphyrinogen oxidase (PPOX) gene mutation R59W, which accounts for dominantly inherited variegate porphyria (VP) in >80% of affected South Africans. The mutant allele frequency of the C282Y mutation was found to be significantly lower in 73 apparently unrelated VP patients with the R59W mutation than in 102 controls drawn from the same population (P = 0.005). The population screening approach used in this study revealed considerable genotypic variation in the %HFE% %gene% and supports previous data on the involvement of this gene in the porphyria phenotype.

Tags: Case Report; Female; Human; Male; Support, Non-U.S. Gov't

Descriptors: *Hemochromatosis--Genetics--GE; *Histocompatibility Antigens Class I--Genetics--GE; *HLA Antigens--Genetics--GE; *Porphyria--Genetics --GE; Amino Acid Substitution; Base Sequence; Caucasoid Race--Genetics--GE; Child; DNA--Chemistry--CH; DNA--Genetics--GE; DNA Mutational Analysis; Genotype; Hemochromatosis--Ethnology--EH; Heteroduplex Analysis; Mutation; Negroid Race--Genetics--GE; Point Mutation; %Polymorphism%, Single-Stranded Conformational; Porphyria--Ethnology--EH; South Africa--Epidemiology--EP

CAS Registry No.: 0 (Histocompatibility Antigens Class I); 0 (HLA Antigens); 0 (HLA-H antigen); 9007-49-2 (DNA)

Detecting amplification in a strand displacement amplification reaction - DNA amplification by primer extension using DNA-polymerase and detection of 2 products
AUTHOR: Nadeau J G; Walker G T
CORPORATE SOURCE: Franklin Lakes, NJ, USA.
PATENT ASSIGNEE: Becton-Dickinson 1995
PATENT NUMBER: EP 678582 PATENT DATE: 951025 WPI ACCESSION NO.: 95-360100 (9547)
PRIORITY APPLIC. NO.: US 229281 APPLIC. DATE: 940418
NATIONAL APPLIC. NO.: EP 95104931 APPLIC. DATE: 950403
LANGUAGE: English

11 Apr. / 20c

6/3/9 (Item 8 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs

0177843 DBA Accession No.: 95-04664 PATENT
Nucleic acid amplification involving transcription and displacement - DNA amplification and RNA amplification by primer extension using RNA-polymerase and DNA-polymerase, for application in pathogen detection and disease diagnosis
AUTHOR: Cleuziat P; Guillou-Bonnici F; Mallet F; Levasseur P
PATENT ASSIGNEE: Bio-Merieux 1995
PATENT NUMBER: WO 9503246 PATENT DATE: 950202 WPI ACCESSION NO.: 95-075250 (9510)
PRIORITY APPLIC. NO.: FR 939187 APPLIC. DATE: 930726
NATIONAL APPLIC. NO.: WO 94FR935 APPLIC. DATE: 940726
LANGUAGE: French

6/3/10 (Item 9 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs

0151057 DBA Accession No.: 93-09109 PATENT
Nucleic acid %target% generation - by strand %displacement% amplification %primer% %extension% method
PATENT ASSIGNEE: Becton-Dickinson 1993
PATENT NUMBER: EP 543612 PATENT DATE: 930526 WPI ACCESSION NO.: 93-169266 (9321)
PRIORITY APPLIC. NO.: US 794399 APPLIC. DATE: 911119
NATIONAL APPLIC. NO.: EP 92310465 APPLIC. DATE: 921117
LANGUAGE: English

6/3/11 (Item 10 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs

0134165 DBA Accession No.: 92-06657
Strand displacement amplification - an isothermal, in vitro DNA amplification technique - 5'-modified, 3'-modified double-stranded DNA %target% production using sense or antisense DNA primer and exonuclease-deficient Klenow fragment
AUTHOR: Walker G T; Fraiser M S; Schram J L; Little M C; Nadeau J G; Malinowski D P
CORPORATE SOURCE: Department of Molecular Biology, Becton Dickinson Research Center, P.O. Box 12016, Research Triangle Park, NC 27709, USA.
JOURNAL: Nucleic Acids Res. (20, 7, 1691-96) 1992
CODEN: NARHAD
LANGUAGE: English

6/3/1 (Item 1 from file: 315)
DIALOG(R)File 315:ChemEng & Biotec Abs
(c)1999 DECHEMA. All rts. reserv.

361104 CEABA Accession No.: 26-05-010704 DOCUMENT TYPE: Patent
Title: Nucleic acid %target% generation.
AUTHOR: Walker, G. T.; Little, M. C.; Nadeau, J. G.
CORPORATE SOURCE: Becton, Dickinson & Co. Franklin Lakes, NJ USA
CODEN: USXXAM
PATENT NUMBER: US 5270184
PUBLICATION DATE: 14 Dec 1993 (931214) LANGUAGE: English
PRIORITY PATENT APPLICATION(S) & DATE(S): US 794399 (911119)

6/3/2 (Item 1 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs
(c) 2000 Derwent Publ Ltd. All rts. reserv.

0249549 DBA Accession No.: 2000-04039 PATENT
Amplifying nucleic acid molecules, without the requirement for primer binding sites on each complementary strand - using DNA primers, used to produce nucleic acid with decreased thermostability
AUTHOR: Rabbani E; Stavrianopolous J G; Donegan J J; Coleman J; Walner M
CORPORATE SOURCE: New York, NY, USA.
PATENT ASSIGNEE: Enzo-Diagn. 2000
PATENT NUMBER: EP 971039 PATENT DATE: 20000112 WPI ACCESSION NO.: 2000-108007 (2010)
PRIORITY APPLIC. NO.: US 104067 APPLIC. DATE: 19980624
NATIONAL APPLIC. NO.: EP 99112181 APPLIC. DATE: 19990624
LANGUAGE: English

6/3/3 (Item 2 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs
(c) 2000 Derwent Publ Ltd. All rts. reserv.

0230710 DBA Accession No.: 99-00811 PATENT
Amplification of RNA targets - reverse transcription strand displacement DNA amplification for use in cancer or viremia disease diagnosis
AUTHOR: Pearson R E; Dickson J A; Mehrpouyan M
CORPORATE SOURCE: Franklin Lakes, NJ, USA.
PATENT ASSIGNEE: Becton-Dickinson 1998
PATENT NUMBER: EP 878553 PATENT DATE: 981118 WPI ACCESSION NO.: 98-585754 (9850)
PRIORITY APPLIC. NO.: US 854041 APPLIC. DATE: 970508
NATIONAL APPLIC. NO.: EP 98108154 APPLIC. DATE: 980505
LANGUAGE: English

6/3/4 (Item 3 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs
(c) 2000 Derwent Publ Ltd. All rts. reserv.

0221132 DBA Accession No.: 98-02729 PATENT
Oligonucleotide primers for Chlamydia detection - specific for Chlamydia trachomatis cryptic plasmid, used in diagnostic DNA %primer% %extension%, polymerase chain reaction or strand %displacement% amplification, with DNA probe hybridization

AUTHOR: Spears P A
CORPORATE SOURCE: Franklin Lakes, NJ, USA.
PATENT ASSIGNEE: Becton-Dickinson 1997
PATENT NUMBER: EP 812921 PATENT DATE: 971217 WPI ACCESSION NO.: 98-034981 (9804)
PRIORITY APPLIC. NO.: US 661507 APPLIC. DATE: 960611
NATIONAL APPLIC. NO.: EP 97109173 APPLIC. DATE: 970606
LANGUAGE: English

6/3/5 (Item 4 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs

0216116 DBA Accession No.: 97-11237 PATENT
Amplification of nucleic acids by PCR - polymerase chain reaction with increased efficiency by peptide nucleic acid annealing
AUTHOR: Demers D B
CORPORATE SOURCE: Fairfax, VA, USA.
PATENT ASSIGNEE: Genet.IVF-Inst.Fairfax 1997
PATENT NUMBER: US 5656461 PATENT DATE: 970812 WPI ACCESSION NO.: 97-414587 (9738)
PRIORITY APPLIC. NO.: US 468658 APPLIC. DATE: 950606
NATIONAL APPLIC. NO.: US 468658 APPLIC. DATE: 950606
LANGUAGE: English

6/3/6 (Item 5 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs

0212843 DBA Accession No.: 97-07964 PATENT
Fluorescence polarization assay for nucleic acids - by strand displacement at high temperature
AUTHOR: Preston L C; Walker G T; Spears P A
CORPORATE SOURCE: Franklin Lakes, NJ, USA.
PATENT ASSIGNEE: Becton-Dickinson 1997
PATENT NUMBER: EP 774516 PATENT DATE: 970521 WPI ACCESSION NO.: 97-274348 (9725)
PRIORITY APPLIC. NO.: EP 96118154 APPLIC. DATE: 961113
NATIONAL APPLIC. NO.: EP 968154 APPLIC. DATE: 961113
LANGUAGE: English

6/3/7 (Item 6 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs

0198017 DBA Accession No.: 96-08788 PATENT
Enhancing PCR by using peptide nucleic acid oligomers - diagnostic polymerase chain reaction method
AUTHOR: Demers D B
CORPORATE SOURCE: Fairfax, VA, USA.
PATENT ASSIGNEE: Genet.IVF-Inst.Fairfax 1996
PATENT NUMBER: WO 9613611 PATENT DATE: 960509 WPI ACCESSION NO.: 96-239515 (9624)
PRIORITY APPLIC. NO.: US 330790 APPLIC. DATE: 941028
NATIONAL APPLIC. NO.: WO 95US13345 APPLIC. DATE: 951027
LANGUAGE: English

6/3/8 (Item 7 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs

0189268 DBA Accession No.: 96-00039 PATENT

11 April 2000

Set	Items	Description
S1	23	((PRIMER()EXTENSION) (8N)DISPLACE?)
S2	18	RD (unique items)
S3	0	S2 AND (SNP OR POLYMORPHISM)
S4	0	S2 AND MISMATCH
S5	0	S4 AND TARGET
S6	11	S2 AND TARGET
S7	42	AU="WRIGHT DAVID" OR AU="WRIGHT DAVID J"
S8	41	RD (unique items)
S9	0	S8 AND PRIMER()EXTENSION
S10	0	S8 AND POLYMORPHISM
S11	0	S8 AND (PRIMER (2N) EXTENSION)
S12	1	S8 AND PCR
S13	0	AU="MILLA M" AND (PRIMER (2N) EXTENSION)
S14	1	S12 AND PCR
S15	0	S14 NOT S12
S16	12	AU="NADEAU JAMES G"
S17	9	RD (unique items)
S18	0	S17 AND (PRIMER (2N) EXTENSION)
S19	7	S17 AND (STRAND () DISPLACE?)
S20	0	S19 AND (POLYMORPHISM OR MISMATCH)
S21	7	S19 NOT S6
S22	7	RD (unique items)
S23	0	(S8 OR S16) AND HFE
S24	44	AU="MILLA M"

6/5/2 (Item 1 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs

0249549 DBA Accession No.: 2000-04039 PATENT
Amplifying nucleic acid molecules, without the requirement for primer binding sites on each complementary strand - using DNA primers, used to produce nucleic acid with decreased thermostability
AUTHOR: Rabbani E; Stavrianopolous J G; Donegan J J; Coleman J; Walner M
CORPORATE SOURCE: New York, NY, USA.
PATENT ASSIGNEE: Enzo-Diagn. 2000
PATENT NUMBER: EP 971039 PATENT DATE: 20000112 WPI ACCESSION NO.: 2000-108007 (2010)
PRIORITY APPLIC. NO.: US 104067 APPLIC. DATE: 19980624
NATIONAL APPLIC. NO.: EP 99112181 APPLIC. DATE: 19990624
LANGUAGE: English
ABSTRACT: A means of linearly amplifying a specific nucleic acid sequence is claimed. It involves the use of a DNA primer containing a region complementary to part of the %target% nucleic acid, and a region substantially different from that first region and identical to a second part of the %target% nucleic acid. The second region can bind to a nucleic acid complementary to it allowing subsequent binding of a first region of a second DNA primer to a first region of the %target% nucleic acid. This results in a second primer extension displacing the first primer extension. Also claimed is a means of non-linear amplification using two DNA primers, a linear amplification using a DNA primer with a 3rd region substantially identical to the 1st, and a post termination labeling process used in nucleic acid sequencing. The claims also cover a means of producing nucleic acid sequences with decreased thermodynamic stability and a ss or ds nucleic acid containing a linear, branched or inverted nucleic acid or a peptide nucleic acid, or a combination of them. These are used to amplify nucleic acids, post termination labeling of nucleic acids and producing nucleic acids with modified properties. (66pp)
DESCRIPTORS: DNA primer characterization, linear, non-linear DNA amplification, %primer% %extension%, %displacement%, appl. non-thermostable nucleic acid prep. hybridization (Vol.19, No.8)
SECTION: GENETIC ENGINEERING AND FERMENTATION-Nucleic Acid Technology (A1)

6/5/3 (Item 2 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs

0230710 DBA Accession No.: 99-00811 PATENT
Amplification of RNA targets - reverse transcription strand displacement DNA amplification for use in cancer or viremia disease diagnosis
AUTHOR: Pearson R E; Dickson J A; Mehrpouyan M
CORPORATE SOURCE: Franklin Lakes, NJ, USA.
PATENT ASSIGNEE: Becton-Dickinson 1998
PATENT NUMBER: EP 878553 PATENT DATE: 981118 WPI ACCESSION NO.: 98-585754 (9850)
PRIORITY APPLIC. NO.: US 854041 APPLIC. DATE: 970508
NATIONAL APPLIC. NO.: EP 98108154 APPLIC. DATE: 980505
LANGUAGE: English
ABSTRACT: A new method for amplification of a %target% sequence (TS) by strand displacement amplification (SDA) is claimed. The 2 polymerase/1 step method (I) comprises: hybridizing a 1st amplification DNA primer

(containing a restriction endonuclease site 5' to the TS recognition site) at the 3' end of a %target% RNA and a 1st bumper DNA primer 5' to the 1st amplification primer; extending both primers using a reverse-transcriptase (EC-2.7.7.49) with SDA activity lacking 5' to 3' exonuclease activity and deoxynucleoside triphosphates (dNTPs) (where at least 1 is modified) to give a ss cDNA; hybridizing a 2nd amplification and bumper primer to the cDNA; extending the 2nd primers using dNTPs and a modified dNTP to give a ss 2nd DNA product; producing a ds product with a hemimodified restriction site by hybridizing DNA from the previous step to the 1st amplification primer; and amplifying the TS by nicking the ds hemimodified restriction site in the ds 2nd DNA product, extending from the nick using thermostable DNA-dependent DNA-polymerase with SDA activity and lacking 5' to 3' exonuclease activity, and repeating nicking, extending and displacing steps. (14pp)
E.C. NUMBERS: 2.7.7.49
DESCRIPTORS: RNA reverse transcription, strand %displacement% DNA amplification, bumper DNA primer, amplification DNA %primer% %extension%, appl. viremia, cancer diagnosis tumor (Vol.18, No.3)
SECTION: GENETIC ENGINEERING AND FERMENTATION-Nucleic Acid Technology; PHARMACEUTICALS-Clinical Genetic Techniques (A1,D7)

6/5/4 (Item 3 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs

0221132 DBA Accession No.: 98-02729 PATENT
Oligonucleotide primers for Chlamydia detection - specific for Chlamydia trachomatis cryptic plasmid, used in diagnostic DNA %primer% %extension%, polymerase chain reaction or strand %displacement% amplification, with DNA probe hybridization
AUTHOR: Spears P A
CORPORATE SOURCE: Franklin Lakes, NJ, USA.
PATENT ASSIGNEE: Becton-Dickinson 1997
PATENT NUMBER: EP 812921 PATENT DATE: 971217 WPI ACCESSION NO.: 98-034981 (9804)
PRIORITY APPLIC. NO.: US 661507 APPLIC. DATE: 960611
NATIONAL APPLIC. NO.: EP 97109173 APPLIC. DATE: 970606
LANGUAGE: English
ABSTRACT: DNA with a specified %target%-binding sequence (I) and optionally a sequence required for DNA amplification (II), is new. Also claimed is a method for amplifying a %target% sequence of a Chlamydia trachomatis cryptic plasmid involving; hybridizing a first DNA primer with (I), and optionally (II), to the %target% sequence; hybridizing a second DNA primer; and amplifying the %target% sequence either by extending the hybridized DNA primers on the %target% sequence, or by strand displacement amplification if (II) is not present. Preferably, the amplified %target% sequence is detected by hybridization to a DNA probe, which may be extended by polymerase before detecting a label. The sequence required for an amplification reaction may contain a restriction site. The %target% sequence may be amplified by polymerase chain reaction. (12pp)
DESCRIPTORS: Chlamydia trachomatis cryptic plasmid-specific DNA primer set, DNA probe, polymerase chain reaction, appl. Chlamydia infection diagnosis bacterium DNA amplification hybridization %primer% %extension% strand %displacement% DNA sequence (Vol.17, No.6)
SECTION: PHARMACEUTICALS-Clinical Genetic Techniques; GENETIC ENGINEERING AND FERMENTATION-Nucleic Acid Technology (D7,A1)

6/5/6 (Item 5 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs

0212843 DBA Accession No.: 97-07964 PATENT
Fluorescence polarization assay for nucleic acids - by strand displacement

at high temperature
AUTHOR: Preston L C; Walker G T; Spears P A
CORPORATE SOURCE: Franklin Lakes, NJ, USA.
PATENT ASSIGNEE: Becton-Dickinson 1997
PATENT NUMBER: EP 774516 PATENT DATE: 970521 WPI ACCESSION NO.: 97-274348 (9725)
PRIORITY APPLIC. NO.: EP 96118154 APPLIC. DATE: 961113
NATIONAL APPLIC. NO.: EP 968154 APPLIC. DATE: 961113
LANGUAGE: English
ABSTRACT: A new method for detecting amplification of a nucleic acid %target% sequence (TS) involves: amplifying the TS in an amplification reaction comprising a strand displacing polymerase and a fluorescently labeled ss signal primer which hybridizes to a 1st strand of the TS downstream of a 1st amplification primer, thereby producing a signal %primer% %extension% product which is %displaced% from the 1st strand of the TS by extension of the 1st amplification primer; hybridizing a 2nd amplification primer to the %displaced% signal %primer% %extension% product and extending the 2nd amplification primer, thereby producing a fluorescently-labeled ds secondary amplification product; and detecting production of the ds secondary amplification product by fluorescence polarization as an indication of TS amplification. The amplification reaction is thermophilic strand displacement amplification using Bca or Bst. The reaction is performed at 50-60 deg. Alternatively, the amplification reaction is the polymerase chain reaction. The high temp. improves specificity and reduction of fluorescence polarization is avoided by adding a ds DNA binding protein to the reaction. (15pp)
DESCRIPTORS: high temp. strand displacement amplification, polymerase chain reaction, RNA, DNA amplification detection, fluorescence polarization, ds DNA binding protein effect (Vol.16, No.15)
SECTION: GENETIC ENGINEERING AND FERMENTATION-Nucleic Acid Technology (A1)

6/5/7 (Item 6 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs

0198017 DBA Accession No.: 96-08788 PATENT
Enhancing PCR by using peptide nucleic acid oligomers - diagnostic polymerase chain reaction method
AUTHOR: Demers D B
CORPORATE SOURCE: Fairfax, VA, USA.
PATENT ASSIGNEE: Genet.IVF-Inst.Fairfax 1996
PATENT NUMBER: WO 9613611 PATENT DATE: 960509 WPI ACCESSION NO.: 96-239515 (9624)
PRIORITY APPLIC. NO.: US 330790 APPLIC. DATE: 941028
NATIONAL APPLIC. NO.: WO 95US13345 APPLIC. DATE: 951027
LANGUAGE: English
ABSTRACT: A new process for DNA amplification involves annealing a sample with at least 1 peptide nucleic acid (PNA) oligomer (5-20 or 8-16 monomers), which binds within the %target% sequence, and polymerizing a complementary sequence using a DNA primer and a thermostable DNA-polymerase (EC-2.7.7.7), so that the PNA is %displaced% during %primer% %extension% . A mixture of PNAs may be used, with different specificities. The %target% sequence may contain a sequence which is repeated at least once. during annealing, the PNA may form a duplex with a melting point of 70-80 deg or 74-78 deg. A polymerase chain reaction method with temp. cycling, and a kit for the process, is specified. The process may be used for DNA amplification, in vitro mutagenesis, and for sequential production of slightly differing fragments so that the final fragment differs from the original by a large amount. The method allows detection and/or characterization of specific sequences associated with infectious disease, genetic disease or cellular disorders, e.g. cancer. The use of PNAs blocks the amplification products from functioning as templates. (70pp)
E.C. NUMBERS: 2.7.7.7
DESCRIPTORS: enhanced polymerase chain reaction method, peptide nucleic

acid annealing, DNA primer, thermostable DNA-polymerase, appl. diagnostic, etc. DNA amplification enzyme EC-2.7.7.7 (Vol.15, No.15)
SECTION: PHARMACEUTICALS-Clinical Genetic Techniques; GENETIC ENGINEERING AND FERMENTATION-Nucleic Acid Technology (D7,A1)

6/5/8 (Item 7 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs

0189268 DBA Accession No.: 96-00039 PATENT
Detecting amplification in a strand displacement amplification reaction - DNA amplification by primer extension using DNA-polymerase and detection of 2 products
AUTHOR: Nadeau J G; Walker G T
CORPORATE SOURCE: Franklin Lakes, NJ, USA.
PATENT ASSIGNEE: Becton-Dickinson 1995
PATENT NUMBER: EP 678582 PATENT DATE: 951025 WPI ACCESSION NO.: 95-360100 (9547)
PRIORITY APPLIC. NO.: US 229281 APPLIC. DATE: 940418
NATIONAL APPLIC. NO.: EP 95104931 APPLIC. DATE: 950403
LANGUAGE: English
ABSTRACT: A new method for forming concurrently a secondary amplification product (II) and an amplification product (I) in a strand displacement amplification (SDA) reaction (using DNA-polymerase (DP, EC-2.7.7.7) with strand displacing activity and lacking 5'-3' exonuclease activity and a restriction endonuclease (RE) that nicks a hemimodified ds restriction site (hmRS)) involves: hybridizing a signal primer (SP) to a %target% sequence (TS) and hybridizing a first SDA amplification primer (AP) to the TS upstream of the SP; extending the hybridized SP on the TS to give a SP extension product (EP) and extending the hybridized first AP on the TS such that extension of the first AP displaces the SPEP from the TS; hybridizing a second SDA AP to the SPEP and extending the hybridized second AP on the SPEP to give a second AP EP comprising a new strand and a hmRS for the RE; nicking the hmRS and displacing the new strand from the SPEP using the DP; hybridizing the SP to the displaced new strand and extending the SP so that a ds (II) is formed. The method allows amplification detection without affecting further amplification. (21pp)
E.C. NUMBERS: 2.7.7.7
DESCRIPTORS: strand %displacement% amplification DNA amplification 2 product detection, %primer% %extension%, DNA-polymerase enzyme EC-2.7.7.7 (Vol.15, No.1)
SECTION: GENETIC ENGINEERING AND FERMENTATION-Nucleic Acid Technology (A1)

6/5/9 (Item 8 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs

0177843 DBA Accession No.: 95-04664 PATENT
Nucleic acid amplification involving transcription and displacement - DNA amplification and RNA amplification by primer extension using RNA-polymerase and DNA-polymerase, for application in pathogen detection and disease diagnosis
AUTHOR: Cleuziat P; Guillou-Bonnici F; Mallet F; Levasseur P
PATENT ASSIGNEE: Bio-Merieux 1995
PATENT NUMBER: WO 9503246 PATENT DATE: 950202 WPI ACCESSION NO.: 95-075250 (9510)
PRIORITY APPLIC. NO.: FR 939187 APPLIC. DATE: 930726
NATIONAL APPLIC. NO.: WO 94FR935 APPLIC. DATE: 940726
LANGUAGE: French
ABSTRACT: Amplification of a %target% nucleic acid sequence with 5' and 3' sequences of at least 5 nucleotides involves: (1) providing a polynucleotide (I) containing the sequence (Ia) to be amplified and at least 1 segment (Ib) which contains an antisense sequence of an

RNA-polymerase (EC-2.7.7.6); and (2) contacting (I) with a system having RNA-polymerase, RNA-dependent DNA-polymerase (EC-2.7.7.7), DNA-dependent DNA-polymerase and strand-displacement activities in the presence of excess dNTP and rNTP and of excess primers. This method, based on transcription and displacement, can amplify any RNA and/or DNA %target% sequence. Nucleic acid isolated from a biological sample can be amplified in a single step. The method is used to determine if a gene (or part of it) is present in an organism, cell extract or biological sample, e.g. to detect pathogens, the presence of alleles or genomic lesions, specific mRNA or host cell modifications, e.g. diagnosis or identification of pathogens or genetic diseases. The amplification products can also be used as probes or as a matrix for sequencing, or can be subjected to further enzymatic or amplification processes. (78pp)

E.C. NUMBERS: 2.7.7.6; 2.7.7.7

DESCRIPTORS: DNA amplification, RNA amplification, transcription, %displacement%, %primer% %extension%, RNA-polymerase, DNA-polymerase, appl. pathogen det., disease diagnosis enzyme EC-2.7.7.6 (Vol.14, No.8)

SECTION: PHARMACEUTICALS-Clinical Genetic Techniques; GENETIC ENGINEERING AND FERMENTATION-Nucleic Acid Technology (D7,A1)

? ds

Set	Items	Description
S1	23	((PRIMER()EXTENSION) (8N)DISPLACE?)
S2	18	RD (unique items)
S3	0	S2 AND (SNP OR POLYMORPHISM)
S4	0	S2 AND MISMATCH
S5	0	S4 AND TARGET
S6	11	S2 AND TARGET

22/5/1 (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

12321662 BIOSIS NO.: 200000075164
Real-time, sequence-specific detection of nucleic acids during %strand% %displacement% amplification.
AUTHOR: %Nadeau James G%(a); Pitner J Bruce; Linn C Preston; Schram James L ; Dean Cheryl H; Nycz Colleen M
AUTHOR ADDRESS: (a)B. D. BioSciences, 54 Loveton Circle, Sparks, MD**USA
JOURNAL: Analytical Biochemistry 276 (2):p177-187 Dec. 15 , 1999
ISSN: 0003-2697
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English
SUMMARY LANGUAGE: English

ABSTRACT: %Strand% %displacement% amplification (SDA) is an isothermal nucleic acid amplification method based on the primer-directed nicking activity of a restriction enzyme and the %strand% %displacement% activity of an exonuclease-deficient polymerase. Here we describe fluorogenic reporter probes that permit real-time, sequence-specific detection of targets amplified during SDA. The new probes possess the single-strand half of a BsoBI recognition sequence flanked on opposite sides by a fluorophore and a quencher. The probes also contain target-binding sequences located 3' to the BsoBI site. Fluorophore and quencher are maintained in sufficiently close proximity that fluorescence is quenched in the intact single-stranded probe. If target is present during SDA, the probe is converted into a fully double-stranded form and is cleaved by the restriction enzyme BsoBI, which also serves as the nicking agent for SDA. Fluorophore and quencher diffuse apart upon probe cleavage, causing increased fluorescence. Target replication may thus be followed in real time during the SDA reaction. Probe performance may be enhanced by embedding the fluorogenic BsoBI site within the loop of a folded hairpin structure. The new probe designs permit detection of as few as 10 target copies within 30 min in a closed-tube, real-time format, eliminating the possibility of carry-over contamination. The probes may be used to detect RNA targets in SDA mixtures containing reverse transcriptase. Furthermore, a two-color competitive SDA format permits accurate quantification of target levels from the real-time fluorescence data.

DESCRIPTORS:
MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Methods and Techniques
CHEMICALS & BIOCHEMICALS: DNA--amplification, analysis, purification, synthesis; RNA--amplification, analysis, purification, synthesis; fluorogenic reporter probe; nucleic acids--amplification, analysis, purification, synthesis
METHODS & EQUIPMENT: Applied Biosystems 380B automated DNA synthesizer--equipment; HPLC {high performance liquid chromatography}--liquid chromatography, purification method; nucleic acid synthesis--chemical synthesis, synthetic method; %strand% %displacement% amplification--DNA amplification method, molecular genetics/genetic engineering
CONCEPT CODES:
10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines
10504 Biophysics-General Biophysical Techniques

22/5/2 (Item 2 from file: 5)

DIALOG(R)File 5:Biosis Previews(R)

10235059 BIOSIS NO.: 199698689977
DNA detection by %strand% %displacement% amplification and fluorescence polarization with signal enhancement using a DNA binding protein.
AUTHOR: Walker G Terrance(a); Linn C Preston; %Nadeau James G%
AUTHOR ADDRESS: (a)Becton Dickinson Research Center, PO Box 12016, 21 Davis Drive, Research Triangle Park, NC 27709**USA
JOURNAL: Nucleic Acids Research 24 (2):p348-353 1996
ISSN: 0305-1048
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: %Strand% %displacement% amplification (SDA) is an isothermal in vitro method of amplifying a DNA sequence prior to its detection. We have combined SDA with fluorescence polarization detection. A 5'-fluorescein-labelled oligodeoxynucleotide detector probe hybridizes to the amplification product that rises in concentration during SDA and the single- to double-strand conversion is monitored through an increase in fluorescence polarization. Detection sensitivity can be enhanced by using a detector probe containing an EcoRI recognition sequence at its 5'-end that is not homologous to the target sequence. During SDA the probe is converted to a fully double-stranded form that specifically binds a genetically modified form of the endonuclease EcoRI which lacks cleavage activity but retains binding specificity. We have applied this SDA detection system to a target sequence specific for Mycobacterium tuberculosis.

DESCRIPTORS:
MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Genetics; Methods and Techniques
BIOSYSTEMATIC NAMES: Mycobacteriaceae--Eubacteria, Bacteria
ORGANISMS: Mycobacterium tuberculosis (Mycobacteriaceae)
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): bacteria; eubacteria; microorganisms
MISCELLANEOUS TERMS: ANALYTICAL METHOD; BINDING SPECIFICITY; NUCLEIC ACID PROBE; RECOGNITION SEQUENCE
CONCEPT CODES:
10052 Biochemical Methods-Nucleic Acids, Purines and Pyrimidines
10506 Biophysics-Molecular Properties and Macromolecules
31500 Genetics of Bacteria and Viruses
10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
BIOSYSTEMATIC CODES:
08881 Mycobacteriaceae (1992-)

22/5/3 (Item 3 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

10224155 BIOSIS NO.: 199698679073
%Strand% %displacement% amplification (SDA) and transient-state fluorescence polarization detection of Mycobacterium tuberculosis DNA.
AUTHOR: Walker G Terrance(a); %Nadeau James G%; Linn C Preston; Devlin Robert F; Dandliker Walter B
AUTHOR ADDRESS: (a)Becton Dickinson Res. Center, P.O. Box 12016, 21 Davis Dr., Research Triangle Park, NC 27709-201**USA
JOURNAL: Clinical Chemistry 42 (1):p9-13 1996
ISSN: 0009-9147
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: %Strand% %displacement% amplification (SDA) is an isothermal, in vitro method of amplifying a DNA sequence for diagnostic purposes. We have combined SDA with fluorescence polarization detection in a closed, homogeneous format. A fluorescently labeled oligodeoxynucleotide detector probe hybridizes to the amplification product that increases in concentration during SDA. The single- to double-stranded conversion of the probe is accompanied by an increase in fluorescence polarization values, which can be measured in real-time without physical manipulation of the sample. The probe was labeled with the near-infrared dye La Jolla Blue, and fluorescence polarization was measured on a transient-state fluorometer. We have applied this homogeneous SDA/detection system to a target DNA sequence specific for Mycobacterium tuberculosis DNA.

DESCRIPTORS:
MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Genetics; Infection; Methods and Techniques; Physiology
BIOSYSTEMATIC NAMES: Mycobacteriaceae--Eubacteria, Bacteria
ORGANISMS: Mycobacterium tuberculosis (Mycobacteriaceae)
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): bacteria; eubacteria; microorganisms
MISCELLANEOUS TERMS: ANALYTICAL METHOD; DIAGNOSTIC METHOD
CONCEPT CODES:
03502 Genetics and Cytogenetics-General
10052 Biochemical Methods-Nucleic Acids, Purines and Pyrimidines
10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines
31000 Physiology and Biochemistry of Bacteria
31500 Genetics of Bacteria and Viruses
32000 Microbiological Apparatus, Methods and Media
36001 Medical and Clinical Microbiology-General; Methods and Techniques
36002 Medical and Clinical Microbiology-Bacteriology
12504 Pathology, General and Miscellaneous-Diagnostic
BIOSYSTEMATIC CODES:
08881 Mycobacteriaceae (1992-)

22/5/4 (Item 4 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

09394890 BIOSIS NO.: 199497403260
Multiplex %strand% %displacement% amplification (SDA) and detection of DNA sequences from Mycobacterium tuberculosis and other mycobacteria.
AUTHOR: Walker G Terrance(a); %Nadeau James G%; Spears Patricia A; Schram James L; Nycz Colleen M; Shank Daryl D
AUTHOR ADDRESS: (a)Becton Dickinson Res. Cent., PO Box 12016, 21 Davis Dr., Research Triangle Park, NC 27709-2016**USA
JOURNAL: Nucleic Acids Research 22 (13):p2670-2677 1994
ISSN: 0305-1048
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: %Strand% %Displacement% Amplification (SDA) is an isothermal, in vitro method of amplifying a DNA target sequence prior to detection (Walker et al (1992) Nucleic Acids Res., 20, 1691-1693). Here we describe a multiplex form of SDA that allows two target sequences and an internal amplification control to be co-amplified by a single pair of primers after common priming sequences are spontaneously appended to the ends of target fragments. Multiplex SDA operates at a single temperature, under the same simple protocol previously developed for single-target SDA. We applied multiplex SDA to co-amplification of a target sequence (IS6110) that is specific to members of the Mycobacterium tuberculosis-complex and a target (16S ribosomal gene) that is common to most clinically relevant species of mycobacteria. Both targets are amplified 10-8-fold during a 2 hour, single temperature incubation. The relative sensitivity of the system was evaluated across a number of clinically relevant mycobacteria

and checked for crossreactivity against organisms that are closely related to mycobacteria.

DESCRIPTORS:
MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Genetics; Physiology
BIOSYSTEMATIC NAMES: Mycobacteriaceae--Eubacteria, Bacteria
ORGANISMS: Mycobacterium tuberculosis (Mycobacteriaceae)
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): bacteria; eubacteria; microorganisms
MISCELLANEOUS TERMS: ANALYTICAL METHOD; CROSSREACTIVITY; ISOTHERMAL METHOD; RIBOSOMAL GENE
CONCEPT CODES:
10506 Biophysics-Molecular Properties and Macromolecules
10618 External Effects-Temperature as a Primary Variable-Hot (1971-)
31500 Genetics of Bacteria and Viruses
10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
BIOSYSTEMATIC CODES:
08881 Mycobacteriaceae (1992-)

22/5/5 (Item 5 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

09332561 BIOSIS NO.: 199497340931
Simultaneous detection of two DNA target sequences from mycobacteria using %strand% %displacement% amplification (SDA).
AUTHOR: Walker G Terrance; %Nadeau James G%; Spears Patricia A; Schram James L; Nycz Colleen M; Shank Daryl D
AUTHOR ADDRESS: Becton Dickinson Res. Cent., P.O. Box 12016, 21 Davis Drive, Research Triangle Park, NC 27709-2016**USA
JOURNAL: Clinical Chemistry 40 (4):p662 1994
CONFERENCE/MEETING: 8th San Diego Conference on Beyond DNA Probes San Diego, California, USA November 18-20, 1993
ISSN: 0009-9147
RECORD TYPE: Citation
LANGUAGE: English
DESCRIPTORS:
MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Genetics; Methods and Techniques
BIOSYSTEMATIC NAMES: Mycobacteriaceae--Eubacteria, Bacteria
ORGANISMS: Mycobacterium africanum (Mycobacteriaceae); Mycobacterium bovis (Mycobacteriaceae); Mycobacterium microti (Mycobacteriaceae); Mycobacterium tuberculosis (Mycobacteriaceae)
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): bacteria; eubacteria; microorganisms
MISCELLANEOUS TERMS: ANALYTICAL METHOD; MEETING ABSTRACT; MEETING POSTER
CONCEPT CODES:
10052 Biochemical Methods-Nucleic Acids, Purines and Pyrimidines
10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines
31500 Genetics of Bacteria and Viruses
BIOSYSTEMATIC CODES:
08881 Mycobacteriaceae (1992-)

22/5/6 (Item 6 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

09332544 BIOSIS NO.: 199497340914
Isothermal co-amplification of multiple DNA targets by adapter-mediated %strand% %displacement% amplification.
AUTHOR: %Nadeau James G%; Schram James L; Walker G Terrance

AUTHOR ADDRESS: Becton Dickinson Res. Cent., P.O. Box 12016, 21 Davis Drive, Research Triangle Park, NC 27709**USA
JOURNAL: Clinical Chemistry 40 (4):p660 1994
CONFERENCE/MEETING: 8th San Diego Conference on Beyond DNA Probes San Diego, California, USA November 18-20, 1993
ISSN: 0009-9147
RECORD TYPE: Citation
LANGUAGE: English
DESCRIPTORS:
MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Genetics; Methods and Techniques
BIOSYSTEMATIC NAMES: Mycobacteria--Eubacteria, Bacteria; Mycobacteriaceae --Eubacteria, Bacteria
ORGANISMS: Mycobacteria (Mycobacteria); Mycobacteriaceae (Mycobacteriaceae)
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): bacteria; eubacteria; microorganisms
MISCELLANEOUS TERMS: MEETING ABSTRACT; MEETING POSTER; METHOD
CONCEPT CODES:
10052 Biochemical Methods-Nucleic Acids, Purines and Pyrimidines
10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines
31500 Genetics of Bacteria and Viruses
00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
BIOSYSTEMATIC CODES:
08881 Mycobacteriaceae (1992-)

22/5/7 (Item 7 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

08520457 BIOSIS NO.: 199344070457
Isothermal amplification of DNA targets by %strand% %displacement% amplification.
BOOK TITLE: Nonradioactive labeling and detection of biomolecules
AUTHOR: Little Michael C(a); %Nadeau James G%; Walker G Terrance; Schram James L; Fraiser Melinda S; Alexander Amy; Malinowski Douglas P
BOOK AUTHOR/EDITOR: Kessler Christoph: Ed
AUTHOR ADDRESS: (a)Becton Dickinson Res. Cent., 21 Davis Drive, P.O. Box 12016, Research Triangle Park, NC 27709-10**USA
p218-223 1992
BOOK PUBLISHER: Springer-Verlag, Heidelberger Platz 3, D-1000 Berlin, Germany
Springer-Verlag New York, Inc., 175 Fifth Avenue, New York, New York 10010, USA
ISBN: 3-540-55482-3; 0-387-55482-3
DOCUMENT TYPE: Article
RECORD TYPE: Citation
LANGUAGE: English
DESCRIPTORS:
MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Genetics; Methods and Techniques
BIOSYSTEMATIC NAMES: Mycobacteriaceae--Eubacteria, Bacteria
ORGANISMS: Mycobacterium bovis (Mycobacteriaceae); Mycobacterium tuberculosis (Mycobacteriaceae)
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): bacteria; eubacteria; microorganisms
MISCELLANEOUS TERMS: DNA SEQUENCING; METHOD
CONCEPT CODES:
01056 Microscopy Techniques-Histology and Histochemistry
03502 Genetics and Cytogenetics-General
10052 Biochemical Methods-Nucleic Acids, Purines and Pyrimidines
10504 Biophysics-General Biophysical Techniques
10506 Biophysics-Molecular Properties and Macromolecules
31500 Genetics of Bacteria and Viruses

10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines
BIOSYSTEMATIC CODES:
08881 Mycobacter[redacted]eae (1992-)
? ds

	L #	Hits	Search Text	DBs	Time Stamp
1	L1	111	hemochromatosis	USPAT	2000/04/13 12:38
2	L2	12	1 and (snp or polymorphism)	USPAT	2000/04/13 12:38
3	L4	5	2 and exon	USPAT	2000/04/13 12:38

	L #	Hits	Search Text	DBs	Time Stamp
1	L2	2	HFE adj gene	USPAT	2000/04/13 12:05
2	L3	12	Hereditary adj Hemochromat$	USPAT	2000/04/13 12:09
3	L5	6	3 and (polymorphism or snp)	USPAT	2000/04/13 12:10
4	L6	0	3 and (exon adj 2)	USPAT	2000/04/13 12:12
5	L8	3	3 and exon	USPAT	2000/04/13 12:13

	L #	Hits	Search Text	DBs	Time Stamp
1	L1	64	(primer adj extension) near8 displace$	USPAT	2000/04/11 08:56
2	L2	2620	1 and polymorphism	USPAT	2000/04/11 08:56
3	L4	5	1 and polymorphism	USPAT	2000/04/11 09:01
4	L5	1672	primer adj (pair or tandem)	USPAT	2000/04/11 09:02
5	L6	33	1 and 5	USPAT	2000/04/11 09:03
6	L8	14	6 and (mutation or mismatch or mutant or snp)	USPAT	2000/04/11 09:04